

**SKILLS/ROLES REQUIRED OF PERSONNEL
DEALING WITH QUICK RESPONSE
SITUATIONS**

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Prepared for presentation at a Workshop on "Education and Training for Health Risk Assessment and Management of Hazardous Waste." Arlington, Virginia, March 25, 1986.

Published in Newsletter, Conference of Local Environmental Health Administrators, September 1986

There is nothing new under the sun, but procedures do evolve, become more complex, and take different characteristics and terminology from time to time. I recall when a great clamor developed about the issue of "systems" and I felt like I was still in the 'dark ages' until I finally learned that most of us had been practicing "systems" in the organization and delivery of environmental health services for a long time. "Health planning" also became a popular buzz word and, at first, seemed to be something complex that would require new schools, new training, and new types of personnel. Again, it didn't take long to determine that most progressive environmental health managers had been practicing environmental health planning for most of their careers. Perhaps the most recent of these new discoveries have been the concepts of risk assessment and risk management. Risk assessment and management can run the gamut of complexity from the routine to the complex biostatistical approaches used in research: To the local Environmental Health practitioner, it is new terminology for complete environmental health problem identification and quantification coupled with selection of the most appropriate problem-solving methodology. The issues of risk assessment and management have become more complex in recent times due to the documented public health problems associated with chemicals in our environment.

- o A field sanitarian has engaged in risk assessment and risk management when making such a routine management decision regarding a swollen can of green beans. -

- o A milk sanitarian has assessed the risk and managed the problem when he orders a tanker of milk to be dumped due to high levels of pesticides in the milk.
- o An environmental health specialist has engaged in risk assessment and management when he orders readily perishable food products to be destroyed after determining that they have not been held at safe temperatures.

- o A state environmental health official has assessed the public health risk and made a management decision when preventing the Air Force from disposing of Agent Orange from Viet Nam in deep injection wells in Eastern New Mexico.
- o A state environmental official assessed the risk and quickly managed the problem regarding an overturned oil tanker in the Cimarron River of New Mexico when he learned of the situation, quickly checked some maps, called the downstream irrigation master and had the waste safely diverted into ponds some five miles below the accident.
- o A local environmental health director assessed the risk and made a management decision by ordering a large hotel and restaurant to either close or use bottled and tanker water for drinking throughout the facility after reports of water-borne disease among some of the customers.
- o Closing a food-service establishment upon locating an inter-connection with a known unsafe water supply provides another example of risk assessment and management.

The foregoing are commonplace, real-life examples of risk assessment and management where positive action seemed necessary. Equally important, however, is the public health role of assessing the risk of community problems and reaching the conclusion that the public health risk involved is so minor, or lacking, that no action should be taken due to the absence of any significant risk or to some absurd relationship between the cost and the benefit. Examples include:

- o Refusing to recommend a multi-million dollar vehicle emissions control program on a public health risk assessment basis in an area where the questionable federal ambient air standard is very slightly exceeded for a few hours per year late at night in a very small area of the total county and considering that carbon monoxide levels have been decreasing and continue to decrease due to new vehicle technology.
- o Refusing to lend public health credence to recommendations to prohibit sports-fishing in a part of the nation where lake fish commonly exhibit low levels of mercury:
- o Refusing to recommend widespread use of DDT as a flea control measure following a single case of bubonic plague.

The foregoing types of risk management decisions are actually more difficult and controversial than those where a public health professional declares that some specific action should take place. I have frequently learned the hard way that public health pronouncements of 'doom and gloom' seem to be more acceptable than those made

attempting to overcome mistaken public opinion when a real public health risk does not, in fact, exist.

Yesterday, today, tomorrow -- most actions relating to risk assessment and management will be taken by experienced professionals on the basis of the individual's scientific knowledge and, yes, intuition. Most environmental health agencies may not have the capability of engaging in complex epidemiological, toxicological, and biostatistical risk assessment and will have to rely on such professional scientific judgment and intuition for quick response situations. In other situations and in some instances, the resources and timing may be such that decisions can be deferred for more elaborate risk assessment.

With regard to my charge to specifically discuss the skills and roles required of personnel dealing with quick response situations, I believe that most such quick response situations will ordinarily be handled by personnel at the local level. Decisions and actions must be taken quickly and this does not lead to routine involvement by state and federal officials, unless the event were to take place in close proximity to a state capitol or EPA regional office. Some situations might be of such magnitude or location that time will allow the involvement of state or federal officials, but numerically, these situations will be in the minority.

The type of agency involved is also worthy of some objective consideration. If a local environmental health agency is to assume the lead or coordinating role, it must have the resources to have qualified people on 24-hour call, have enough depth of qualified personnel to insure coverage during periods of vacation or sickness, have personnel with the necessary training, have the type of equipment and protective clothing necessary to handle a hazardous waste incident, have the communications capability of quickly interacting with a number of local agencies as well as contact with the necessary local and national data banks, and have the authority not only to engage in the management of such risks, but to handle traffic and citizen evacuation procedures where necessary. Accepting this role is formidable but exemplary, if a local department really has the personnel, fiscal, legal and equipment resources. We are all aware that Dick Roberts, Director of the Department of Environmental Health Services of San Bernardino County, has opted to accept this major responsibility: But more frequently, local environmental health officials have found it more appropriate to accept advisory or coordinative roles in the management of quick response situations. It is not the purpose of this paper or this conference to list and discuss the myriad important ways in which local environmental in other aspects of the important

roles of health officials can constructively engage hazardous waste management without duplicating federal and state governments.

Other ways in which local environmental become involved in dealing with quick response serving as a member of interdisciplinary or participating in drills in response to quick response situations could include serving as a member of interdisciplinary teams; participating in drills in response to quick response situations: identifying local, knowledgeable people to serve as members of emergency teams; developing advanced computer models indicating the probable effects of winds, varying locations, effects on water supplies and ground water, and effects on schools and hospitals, etc. Such models could be invaluable in the event of emergency situations. Unless such models are prepared, we would not ordinarily have the luxury of time to model, use computers and utilize statistical methods.

Environmental health agency input should include staff knowledgeable in biostatistics, toxicology, chemistry, meteorology, geo-hydrology, engineering, law, and epidemiology.

Other local official agencies which, under varying circumstances, might assume the leadership role for dealing with quick response situations include fire departments, police departments, and emergency preparedness agencies. There is also the possibility of having a retainer contract for a qualified private consulting group.

I do not assume that environmental health officials ordinarily should or will be the lead officials in quick response situations. Police, fire, or emergency preparedness officials also have logical claims to this role:

Different communities should logically plan for different potential quick response situations. Some are more likely to have incidents involving highway transportation, while others are more prone to railway or industrial incidents.

An incomplete listing of some of the skills necessary for personnel of any agency to deal with quick response situations includes:

- 1) The skill to rapidly find information by computer, printed guides, telephones or radio.**

- 2) **The skill to interpret such information, to form the basis for managing the situation.**
- 3) **The skill to make sound decisions under pressure, often without complete information.**
- 4) **The skill to identify, consider, and select the appropriate alternative for management.**
- 5) **The skill to coordinate other important involved agencies.**

- 6) **The skill to understand the potential impact on schools, hospitals, health-care facilities, and water and food supplies.**

- 7) **The skill to compare a given situation to other common and perhaps acceptable risks in our society so as to keep risks in perspective.**

- 8) **The skill to understand the trade-offs in the matter of timing of a decision. How long do we wait for further information?**

- 9) **The skill to utilize a plan involving other agencies, individuals, and groups.**
- 10) **The skill to articulate and communicate such information to the news media, the public, and other officials.**
- 11) **The skill to deal openly and constructively with the news media.**
- 12) **The skill to avoid creating public hysteria and unfounded "scares".**
- 13) **The skill to coordinate training and mock emergency situations.**
- 14) **The skill to quickly contact other support personnel and agencies, including laboratories.**
- 15) **The skill to locate and utilize available equipment, protective clothing and devices.**

In quick response situations, we will usually not have the luxury of sufficient time to perform what we might consider adequate, scientific risk assessment on which to base risk management decisions. But as I indicated in the earlier part of this discussion, this practice is nothing new for experienced environmental health professionals, particularly those at the local level who have been involved in field work in programs necessitating such risk assessment and management for all of their professional careers.

We don't and won't have a11 the skills and answers, but this shouldn't be an excuse to keep us from doing anything. Most incidents are manageable. We do need additional short-term training for many of our personnel, and this is an appropriate federal role -- one that has been abdicated in recent years.

Hazardous waste education and training needs may be different for public health practitioners, researchers, facility and process designers, and standards developers. And, still different for non-public health personnel such as fire and public safety.

We cannt afford not to utilize the time and resources necessary to make certain that our personnel receive the necessary available training if we are to fulfill our roles in public health protection.